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Office of Environmental Management – Grand Junction

MOAB UTAH

UMTRA Project

December 2005 Water Sampling

Validation Data Package for the Matheson Wetlands Preserve Sampling Moab, Utah

March 2006

U.S. Department of Energy

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Data Package Contents

This data package includes the following information:

Item No.	Description of Contents
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2.	**Sample Location Map**
3.	**Data Assessment Summary**
	Water Sampling Field Activities Verification Checklist
	Laboratory Performance Assessment
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Attachment 1—Data Presentation

Water Quality Data
Water Level Data
Blanks Report

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End of current text

Sampling Event Summary

Site: Moab, Utah

Sampling Period: December 12–16, December 20–21, 2005; and January 25–26, 2006

This sampling event represents the first time any Matheson Wetlands Preserve well locations have been sampled by DOE since March 2003. Subsequent sampling events will occur in the spring (April/May) and late summer (August). This event also represents the first Stoller sampling of the BL–1, –2, and –3 well clusters, which were installed by others in late July and early August 2003. Twenty-seven monitor wells/piezometers and two surface water locations were sampled. Six wells/piezometers were dry at the time of this event, and one piezometer had an obstruction. Samples were analyzed for ammonia (total as N), bromide, chloride, sulfate, total dissolved solids, and uranium. Table 1 provides a summary of these results and a comparison with previous sampling events by DOE and the University of Utah.

Because there is such a limited data set for these locations at this time, there are neither minimums versus maximums tables nor time versus concentration graphs in this report. These will be included in future reports when there is a larger data set. However, a summary table of the results, along with previous sampling events, is provided as Table 1. Data from the University of Utah sampling in 2003 is included in the table, but has not been validated by DOE. A review of the data shows the concentrations are generally in the range of previous events, where available, and that the site conceptual model, as presented in the Site Observational Work Plan (DOE 2003), is valid.

According to the USGS Cisco Gaging Station (Station No. 09180500), the mean daily Colorado River flows during the sampling event varied between 2,600 and 3,500 cubic feet per second.

The data validations indicate the data meet the quality control criteria specified for this project. No significant discrepancies were noted regarding sample shipping/receiving, preservation and holding times, instrument calibration, method blanks, matrix spikes, etc., except as qualified.

John R. Ford
Ground Water Lead

3-15-2006
Date

Table 1. Sampling Results

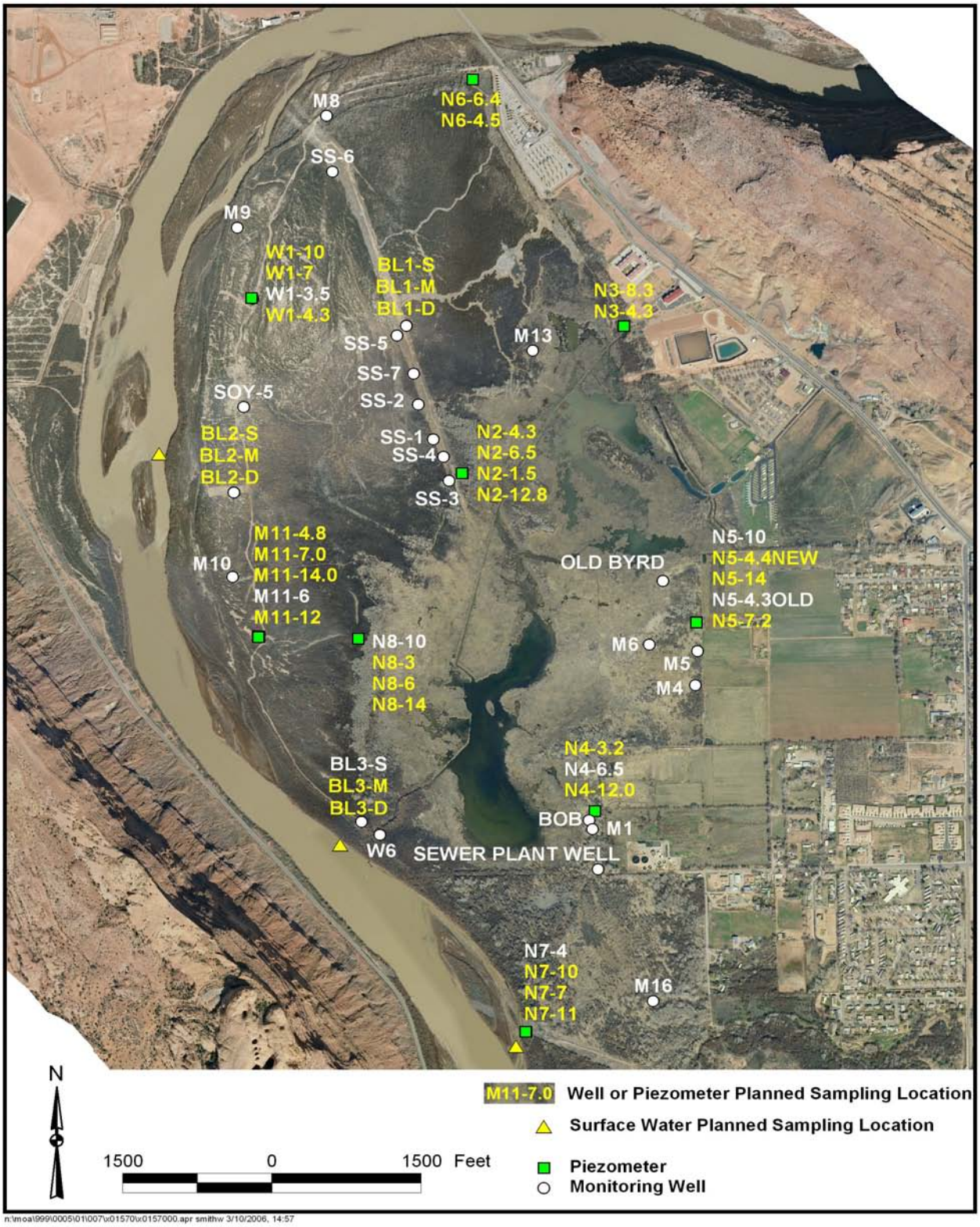
Matheson Location			Ammonia as N (mg/L)			Bromide (mg/L)			Chloride (mg/L)			Sulfate (mg/L)			TDS (mg/L)			Uranium (mg/L)		
		Sample depth (ft bgs)	DOE Sampling		U of U	DOE Sampling		U of U	DOE Sampling		U of U	DOE Sampling		U of U	DOE Sampling		U of U	DOE Sampling		U of U
Number	Type		Dec-05	Mar-03	Jul-Aug 03	Dec-05	Mar-03	Jul-Aug 03	Dec-05	Mar-03	Jul-Aug 03	Dec-05	Mar-03	Jul-Aug 03	Dec-05	Mar-03	Jul-Aug 03	Dec-05	Mar-03	Jul-Aug 03
BL1-S	obs well	55	0.51		1.53	42			21,000		17,700	1,300		1,420	33,000		40,500	0.0070		0.0116
BL1-M	obs well	99	0.66		1.71	20			49,000		37,500	3,000		2,490	77,000		80,300	0.0020		0.0038
BL1-D	obs well	140	2.2		3.72	20			59,000		51,400	4,800		4,650	80,000		95,100	0.0011		0.0018
BL2-S	obs well	57	2.1		4.30	40			47,000		40,300	4,000		3,710	80,000		78,800**	0.0027		0.0024
BL2-M	obs well	100	2.9		4.40	40			58,000		52,400	4,600		4,360	94,000		105,000**	0.0030		0.0027
BL2-D	obs well	142	3.1		4.30	20			62,000		54,200	4,600		4,430	98,000		109,000**	0.0028		0.0024
BL3-M	obs well	47	2.4		2.55	20			49,000		34,700	5,200		4,180	82,000		66,000**	0.0002		0.0005
BL3-D	obs well	100	3.6		4.60	20			71,000		62,400	5,700		5,340	120,000		124,000**	0.0001		<0.0003
M11-4.8	pz	12	0.5	0.46		2			1,200	1,620		960	1,440		3,900	5,490		0.0030	0.0037	
M11-7	pz	12	0.28	0.48	0.28*	1			710	1,320	1,170*	560	995	612*	2,500	4,230	3,960**	0.0028	0.0044	0.0055
M11-12	pz	36	0.47	0.35	0.35*	4			8,000	2,550	9,500*	1,200	614	766*	14,000	5,510	10,500**	0.0012	0.001	0.0018
M11-14[a]	pz	48	2.2	1.55	1.13*	40			52,000	23,300	39,300*	3,900	2,500	2,570*	75,000	41,700	44,300**	0.0009	0.001	0.0023
N2-1.5	pz	dry	dry			dry			dry			dry			dry			dry		
N2-4.3[b]	pz	12	11															0.0002		
N2-6.5	pz	19	0.37			0.4			120			1,100			1,800			0.0001		
N2-12.8	pz	33	0.21			1			220			1,200			2,200			0.0002		
N3-4.3	pz	14	6.6		<0.1*	1			770		1,190*	130		328*	1,900		3,870**	0.0180		0.023
N3-8.3	pz	24	0.1		0.3*	1			480		591*	240		450*	1,600		2,290**	0.0450		0.0592
N4-3.2	pz	8	0.41			0.2			30			5			310			0.0001		
N4-12	pz	37	0.47		<0.1*	0.2			14		98*	62		147*	560		636**	0.0019		0.002
N5-4.4[b]	pz	12	0.21												780			0.0002		
N5-7.2	pz	23	0.18		0.27*	0.2			22		690*	410		582*	890		1,090**	0.0003		
N5-14	pz	45	0.1		<0.1*	0.4			17		54*	420		730*	960		1,030**	0.0026		0.0031
N6-4.5	pz	N/A	N/A			N/A			N/A			N/A			N/A			N/A		
N6-6.4	pz	12	0.1		<0.1*	1			790		1,220*	250		340*	1,700		3,170**	0.0066		0.0069
N7-7	pz	19	1.1	1.27	0.87*	1			1,700	905	907*	590	336	695*	3,400	2,250	2,250**	0.0002	0.001	0.0004
N7-10[a]	pz	32	1.7	1.52	1.44*	20			40,000/	28,300	56,800*	3,800	2,460	4,640*	67,000	50,400	108,000**	0.0024	0.0033	0.008
N7-11	pz	34	3.3	3		40			60,000	52,400		5,000	5,270		99,000	97,000		<0.0001	0.0007	
N8-3	pz	dry	dry			dry			dry			dry			dry			dry		
N8-6	pz	dry	dry			dry			dry			dry			dry			dry		
N8-14	pz	dry	dry		<0.1*	dry			dry		229*	dry		386*	dry		1,650**	dry		0.0008
W1-4.3	pz	dry	dry	0.174	0.11*	dry			dry	29,700	34,800*	dry	2,940	1,610*	dry	50,500	61,700**	dry	0.0021	
W1-7[a]	pz	19	0.35	0.257	0.25*	10			37,000	28,700	44,800*	3,200	3,010	1,570*	56,000	52,300	59,400**	0.0170	0.0231	0.0353
W1-10	pz	dry	dry	3		dry			dry	23,000		dry	2,360		dry	40,900		dry	0.0159	

Notes:

obs well = observation well
pz = piezometer
sample depth refers to discrete depth for obs wells, and total depth of pzs
Dec 2005 data not validated at time spreadsheet generated
a – Locations sampled in December 2002 and March 2003, average result provided
b – Limited sample volume collected from location in December 2005, full analyte suite not available

N/A – Not Available (permanent sample tubing obstructed, no sample obtained)
* – Result obtained using Hach Colorimeter
** – TDS result estimated based on Specific Conductance measurement
DOE March 2003 data taken from SOWP, U of U data taken from Gardner and Solomon report, Dec 2003
DOE sampling conducted using micro-purge technique
U of U sampling conducted by removing 3 casing volumes prior to sampling

Sample Location Map



Sample Locations at the Matheson Wetlands Preserve (may include locations not sampled)

Data Assessment Summary

Water Sampling Field Activities Verification Checklist

Project	Moab, Utah	**Date(s) of Water Sampling**	December 12–16 & 20–21, 2005; and January 25–26, 2006.
Date(s) of Verification	February 23, 2006	**Name of Verifier**	Jeff Price

	Response (Yes, No, NA)	Comments
1. Is the SAP the primary document directing field procedures?	Yes	
List other documents, SOP's, instructions.	NA	
2. Were the sampling locations specified in the planning documents sampled?	No	See trip report for explanation.
3. Was a pre-trip calibration conducted as specified in the above-named documents?	Yes	
4. Was an operational check of the field equipment conducted twice daily?	Yes	
Did the operational checks meet criteria?	Yes	
5. Were the number and types (alkalinity, temperature, Ec, pH, turbidity, DO, ORP) of field measurements taken as specified?	Yes	
6. Was the category of the well documented?	Yes	
7. Were the following conditions met when purging a Category I well:		
Was one pump/tubing volume purged prior to sampling?	Yes	
Did the water level stabilize prior to sampling?	Yes	
Did pH, specific conductance, and turbidity measurements stabilize prior to sampling?	Yes	
Was the flow rate less than 500 mL/min?	Yes	
If a portable pump was used, was there a 4-hour delay between pump installation and sampling?	NA	

Water Sampling Field Activities Verification Checklist (continued)

	Response (Yes, No, NA)	Comments
8. Were the following conditions met when purging a Category II well:		
Was the flow rate less than 500 mL/min?	Yes	
Was one pump/tubing volume removed prior to sampling?	Yes	
9. Were duplicates taken at a frequency of one per 20 samples?	No	Two were required; one was collected.
10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated equipment?	Yes	
11. Were trip blanks prepared and included with each shipment of VOC samples?	NA	
12. Were QC samples assigned a fictitious site identification number?	Yes	
Was the true identity of the samples recorded on the Quality Assurance Sample Log?	Yes	
13. Were samples collected in the containers specified?	Yes	
14. Were samples filtered and preserved as specified?	Yes	
15. Were the number and types of samples collected as specified?	Yes	
16. Were chain of custody records completed and was sample custody maintained?	Yes	
17. Are field data sheets signed and dated by both team members?	Yes	
18. Was all other pertinent information documented on the field data sheets?	Yes	
19. Was the presence or absence of ice in the cooler documented at every sample location?	Yes	
20. Were water levels measured at the locations specified in the planning documents?	Yes	

Laboratory Performance Assessment

General Information

Requisition No:	05120276, 06010301
Sample Event:	December 12–21, 2005
Site(s):	Matheson, Moab, Utah
Laboratory:	Paragon Analytics, Inc.
Work Order No.:	0512132, 0601166
Analysis:	Metals and Inorganics
Validator:	Steve Donivan
Review Date:	February 17, 2006

This validation was performed according to the *Environmental Procedures Catalog* (STO 6), "Standard Practice for Validation of Laboratory Data", GT-9(P). All analyses were successfully completed. The samples were prepared and analyzed using accepted procedures based on methods specified by line item code, which are listed in Table 2.

Table 2. Analytes and Methods

Analyte	Line Item Code	Prep Method	Analytical Method
Ammonia as N, NH_3-N	WCH-A-005	MCAWW 350.1	MCAWW 350.1
Bromide, Br	MIS-A-038	SW-846 9056	SW-846 9056
Chloride, Cl	MIS-A-039	SW-846 9056	SW-846 9056
Sulfate, SO_4	MIS-A-044	SW-846 9056	SW-846 9056
Total Dissolved Solids, TDS	WCH-A-033	MCAWW 160.1	MCAWW 160.1
Uranium, U	GJO-01	SW-846 3005A	SW-846 6020A

Data Qualifier Summary

Analytical results were qualified as listed in Table 3. Refer to the attached validation worksheets and the sections below for an explanation of the data qualifiers applied.

Table 3. Data Qualifiers

Sample Number	Location	Analyte	Flag	Reason
0512132-13	N2-6.5	U	U	Less than 5 times the calibration blank
0512132-15	N4-3.2	U	U	Less than 5 times the calibration blank
0512132-20	N7-11	U	U	Less than 5 times the calibration blank
0512132-22	2290 (Equip Blank)	U	U	Less than 5 times the calibration blank
0512132-33	BL3-D	U	U	Less than 5 times the calibration blank

Sample Shipping/Receiving

Paragon Analytics, Inc., in Fort Collins, Colorado, received 34 samples on December 22, 2005, and two samples on January 27, 2006, accompanied by Chain of Custody (COC) forms. The COC forms were checked to confirm that all of the samples were listed on the forms with sample collection dates and times, and that signatures and dates were present indicating sample relinquishment and receipt. The sample submittal documents including the COC forms and the sample tickets had no errors or omissions.

Preservation and Holding Times

The sample shipment was received, cool and intact, with the temperature within the coolers of 5.4, 2.8, 1.2, and 1.8 °C, which complies with requirements. All samples were received in the correct container types and had been preserved correctly for the requested analyses, and all samples were analyzed within the applicable holding times.

Laboratory Instrument Calibration

Compliance requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing acceptable qualitative and quantitative data for all analytes. Initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear curve. Compliance requirements for continuing calibration checks are established to ensure that the instrument continues to be capable of producing acceptable qualitative and quantitative data. All laboratory instrument calibrations were performed correctly in accordance with the cited methods.

Method SW-846 6020A

Calibrations for uranium were performed on December 30, 2005, and January 31, 2006. The initial calibrations were performed using six calibration standards resulting in calibration curves with correlation coefficient (r^2) values greater than 0.995. The absolute values of the curves intercept were less than 3 times the method detection limit (MDL). Calibration and laboratory spike standards were prepared from independent sources. Initial and continuing calibration verification (CCV) checks were made at the required frequency, resulting in 13 CCVs. All calibration check results met the acceptance criteria. A reporting limit verification check was made at the required frequency to verify the linearity of the calibration curve near the practical quantitation limit. The check was within the acceptance criteria range. Mass calibration and resolution verifications were performed at the beginning of each analytical run in accordance with the analytical procedure. Internal standard recoveries were stable and within acceptable ranges.

Method SW-846 9056

The initial calibrations for bromide, chloride, and sulfate were performed using five calibration standards each on December 16, 2005, December 21, 2005, and January 31, 2006. The calibration curve r^2 values were greater than 0.995, and intercepts were less than 3 times the MDL. Initial calibration and calibration check standards were prepared from independent sources. Initial and continuing calibration checks were made at the required frequency, resulting in 15 CCVs. The calibration checks met the acceptance criteria.

Method MCAWW 350.1

The initial calibrations for ammonia as N were performed using six calibration standards on January 9, 2006, and January 30, 2006, resulting in calibration curves with r^2 values greater than 0.995 and intercepts less than 3 times the MDL. Initial and continuing calibration checks were made at the required frequency, resulting in 11 CCVs. All calibration check results were within the acceptance criteria.

Method MCAWW 160.1

There is no initial or continuing calibration requirement associated with the determination of TDS.

Method and Calibration Blanks

The uranium initial and continuing calibration blanks were below the practical quantitation limits but greater than the MDL. The uranium result for five samples was less than 5 times the concentration of the associated continuing calibration blank and is qualified as "U". The chloride, sulfate, ammonia as N, TDS method blanks, and initial and continuing calibration blanks were all below the MDLs.

Inductively Coupled Plasma Interference Check Sample Analysis

Inductively coupled plasma interference check samples were analyzed at the required frequency to verify the instrumental interelement and background correction factors. All check sample results met the acceptance criteria.

Matrix Spike Analysis

Matrix spike and matrix spike duplicate (MS/MDS) pairs were analyzed for uranium, bromide, chloride, sulfate, and ammonia as N as a measure of method performance in the sample matrix. The MS data were not evaluated in cases where the concentration of the unspiked sample was greater than four times the spike concentration. The spike recoveries met the recovery and precision criteria for all evaluated.

Laboratory Replicate Analysis

The relative percent difference (RPD) values for the laboratory replicate sample and MSD sample results for all analytes were less than 20 percent, indicating acceptable laboratory precision.

Laboratory Control Sample

Laboratory control samples were analyzed at the correct frequency to provide information on the accuracy of the analytical method and the overall laboratory performance, including sample preparation. The results were acceptable for all analytes.

Metals Serial Dilution

Serial dilutions were performed during the uranium analysis to monitor physical or chemical interferences that may exist in the sample matrix. The results met the acceptance criteria.

Detection Limits/Dilutions

Samples were diluted in a consistent and acceptable manner when required. The samples were diluted prior to analysis of uranium to reduce interferences. The required detection limits were achieved for all analytes.

Completeness

Results were reported in the correct units for all analytes requested using contract-required laboratory qualifiers.

Chromatography Peak Integration

The integration of analyte peaks was reviewed for all ion chromatography data. There were no manual integrations performed and all peak integrations were satisfactory.

Electronic Data Deliverable File

The electronic data deliverable (EDD) file for RIN 05120276 arrived on January 19, 2006, and for RIN 06010301 on February 3, 2006. The Sample Management System EDD validation module was used to verify that the EDD files were complete and in compliance with requirements. The module compares the contents of the file to the requested analyses to ensure all and only the requested data are delivered. The contents of the EDD were manually examined to verify that the sample results accurately reflect the data contained in the sample data package.

Field Analyses/Activities

The following information summarizes the field analyses and activities for this sampling event period.

Field Activities

All monitor well results were qualified with an "F" flag in the database indicating the wells were purged and sampled using the low-flow sampling method. Extraction wells are not sampled using the low-flow sampling method.

One equipment blank was collected and analyzed for the same constituents as the Moab samples. Analyte concentrations measured in the equipment blank, with the exception of a chloride result which was slightly above the detection limit, were below their respective contract required detection limits and are considered acceptable. Two duplicate samples were collected. There are no established regulatory criteria for the evaluation of field duplicate samples; therefore, U.S. Environmental Protection Agency (EPA) guidance for laboratory duplicates (which is conservative for field duplicates) was used to assess the precision of the field duplicates. All duplicate results met the laboratory criteria of +/-20 RPD and are considered acceptable.

Certification

Results were reported in correct units for all analytes requested. Appropriate contract-required laboratory qualifiers and target analyte lists were used. The required detection limits were met when possible or an explanation of why they were not met was given in the laboratory case narrative. All analytical quality control criteria were met except as qualified on the Ground Water Quality Data by Parameter, Surface Water Quality by Parameter, or equipment/trip blank database printouts. The meaning of data qualifiers is defined on the database printouts or defined in the EPA Contract Laboratory Program Statement of Work for Inorganic Analysis, Multi-Media Multi-Concentration, Document Number ILMO2.0, 1991. All data in this package are considered validated and may be treated as final results.

Laboratory Validation Lead: Steve Donivan _____ Steve Donivan 3-14-06 _____ Date

Field Activities Validation Lead: J. E. Price _____ Jeff Price 3/13/06 _____ Date

Attachment 1

Data Presentation

Water Quality Data

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0271	SL, RIV	12/16/2005	0001	0.00 - 0.00	176			#	-	-
	mg/L	0273	SL, RIV	12/15/2005	0001	0.00 - 0.00	180			#	-	-
	mg/L	BL1-D	WL	12/21/2005	0001	140.00 - 140.00	116		F	#	-	-
	mg/L	BL1-M	WL	12/20/2005	0001	99.00 - 99.00	300		F	#	-	-
	mg/L	BL1-S	WL	12/20/2005	0001	55.00 - 55.00	188		F	#	-	-
	mg/L	BL2-D	WL	12/21/2005	0001	142.00 - 142.00	114		F	#	-	-
	mg/L	BL2-M	WL	12/16/2005	0001	100.00 - 100.00	172		F	#	-	-
	mg/L	BL2-S	WL	12/15/2005	0001	57.00 - 57.00	190		F	#	-	-
	mg/L	BL3-D	WL	12/21/2005	0001	100.00 - 100.00	192		F	#	-	-
	mg/L	BL3-M	WL	12/21/2005	0001	47.00 - 47.00	214		F	#	-	-
	mg/L	M11-12	WL, PZ	12/13/2005	0001	36.00 - 36.00	400		F	#	-	-
	mg/L	M11-14.0	WL, PZ	12/12/2005	0001	48.00 - 48.00	200		F	#	-	-
	mg/L	N3-8.3	WL, PZ	01/25/2006	0001	24.00 - 24.00	404		F	#	-	-
	mg/L	N5-14	WL, PZ	12/14/2005	0001	45.00 - 45.00	400		F	#	-	-
	mg/L	N6-6.4	WL, PZ	12/12/2005	0001	12.00 - 12.00	500		F	#	-	-
	mg/L	N7-10	WL, PZ	12/15/2005	0001	32.00 - 32.00	360		F	#	-	-
	mg/L	W1-7	WL, PZ	12/13/2005	0001	19.00 - 19.00	300		QF	#	-	-
Ammonia Total as N	mg/L	0271	SL, RIV	12/16/2005	0001	0.00 - 0.00	0.1	U		#	0.1	-
	mg/L	0273	SL, RIV	12/15/2005	0001	0.00 - 0.00	0.32			#	0.1	-
	mg/L	BL1-D	WL	12/21/2005	0001	140.00 - 140.00	2.2		F	#	0.1	-
	mg/L	BL1-M	WL	12/20/2005	0001	99.00 - 99.00	0.66		F	#	0.1	-
	mg/L	BL1-S	WL	12/20/2005	0001	55.00 - 55.00	0.51		F	#	0.1	-
	mg/L	BL2-D	WL	12/21/2005	0001	142.00 - 142.00	3.1		F	#	0.1	-
	mg/L	BL2-M	WL	12/16/2005	0001	100.00 - 100.00	2.9		F	#	0.1	-
	mg/L	BL2-M	WL	12/16/2005	0002	100.00 - 100.00	2.8		F	#	0.1	-
	mg/L	BL2-S	WL	12/15/2005	0001	57.00 - 57.00	2.1		F	#	0.1	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Ammonia Total as N	mg/L	BL3-D	WL	12/21/2005	0001	100.00 - 100.00	3.6		F	#	0.1	-
	mg/L	BL3-M	WL	12/21/2005	0001	47.00 - 47.00	2.4		F	#	0.1	-
	mg/L	M11-12	WL, PZ	12/13/2005	0001	36.00 - 36.00	0.47		F	#	0.1	-
	mg/L	M11-14.0	WL, PZ	12/12/2005	0001	48.00 - 48.00	2.2		F	#	0.1	-
	mg/L	M11-14.0	WL, PZ	12/13/2005	0002	48.00 - 48.00	2.2		F	#	0.1	-
	mg/L	M11-4.8	WL, PZ	12/15/2005	0001	12.00 - 12.00	0.5		QF	#	0.1	-
	mg/L	M11-7.0	WL, PZ	12/14/2005	0001	12.00 - 12.00	0.28		QF	#	0.1	-
	mg/L	N2-12.8	WL, PZ	12/16/2005	0001	33.00 - 33.00	0.21		QF	#	0.1	-
	mg/L	N2-4.3	WL, PZ	12/15/2005	0001	12.00 - 12.00	11		QF	#	0.5	-
	mg/L	N2-6.5	WL, PZ	12/15/2005	0001	19.00 - 19.00	0.37		QF	#	0.1	-
	mg/L	N3-4.3	WL, PZ	01/25/2006	0001	14.00 - 14.00	6.6		QF	#	0.5	-
	mg/L	N3-8.3	WL, PZ	01/25/2006	0001	24.00 - 24.00	0.1	U	F	#	0.1	-
	mg/L	N4-12.0	WL, PZ	12/16/2005	0001	37.00 - 37.00	0.47		QF	#	0.1	-
	mg/L	N4-3.2	WL, PZ	12/16/2005	0001	8.00 - 8.00	0.41		QF	#	0.1	-
	mg/L	N5-14	WL, PZ	12/14/2005	0001	45.00 - 45.00	0.1	U	F	#	0.1	-
	mg/L	N5-4.4NEW	WL, PZ	12/15/2005	0001	12.00 - 12.00	0.21		QF	#	0.1	-
	mg/L	N5-7.2	WL, PZ	12/15/2005	0001	23.00 - 23.00	0.18		QF	#	0.1	-
	mg/L	N6-6.4	WL, PZ	12/12/2005	0001	12.00 - 12.00	0.1	U	F	#	0.1	-
	mg/L	N7-10	WL, PZ	12/15/2005	0001	32.00 - 32.00	1.7		F	#	0.1	-
	mg/L	N7-11	WL, PZ	12/16/2005	0001	34.00 - 34.00	3.3		QF	#	0.1	-
	mg/L	N7-7	WL, PZ	12/16/2005	0001	19.00 - 19.00	1.1		QF	#	0.1	-
	mg/L	W1-7	WL, PZ	12/13/2005	0001	19.00 - 19.00	0.35		QF	#	0.1	-
Bromide	mg/L	0271	SL, RIV	12/16/2005	0001	0.00 - 0.00	0.4	U		#	0.4	-
	mg/L	0273	SL, RIV	12/15/2005	0001	0.00 - 0.00	0.4	U		#	0.4	-
	mg/L	BL1-D	WL	12/21/2005	0001	140.00 - 140.00	20	U	F	#	20	-
	mg/L	BL1-M	WL	12/20/2005	0001	99.00 - 99.00	20	U	F	#	20	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Bromide	mg/L	BL1-S	WL	12/20/2005	0001	55.00 - 55.00	42		F	#	10	-
	mg/L	BL2-D	WL	12/21/2005	0001	142.00 - 142.00	20	U	F	#	20	-
	mg/L	BL2-M	WL	12/16/2005	0001	100.00 - 100.00	40	U	F	#	40	-
	mg/L	BL2-M	WL	12/16/2005	0002	100.00 - 100.00	40	U	F	#	40	-
	mg/L	BL2-S	WL	12/15/2005	0001	57.00 - 57.00	40	U	F	#	40	-
	mg/L	BL3-D	WL	12/21/2005	0001	100.00 - 100.00	20	U	F	#	20	-
	mg/L	BL3-M	WL	12/21/2005	0001	47.00 - 47.00	20	U	F	#	20	-
	mg/L	M11-12	WL, PZ	12/13/2005	0001	36.00 - 36.00	4	U	F	#	4	-
	mg/L	M11-14.0	WL, PZ	12/12/2005	0001	48.00 - 48.00	40	U	F	#	40	-
	mg/L	M11-14.0	WL, PZ	12/13/2005	0002	48.00 - 48.00	20	U	F	#	20	-
	mg/L	M11-4.8	WL, PZ	12/15/2005	0001	12.00 - 12.00	2	U	QF	#	2	-
	mg/L	M11-7.0	WL, PZ	12/14/2005	0001	12.00 - 12.00	1	U	QF	#	1	-
	mg/L	N2-12.8	WL, PZ	12/16/2005	0001	33.00 - 33.00	1	U	QF	#	1	-
	mg/L	N2-6.5	WL, PZ	12/15/2005	0001	19.00 - 19.00	0.4	U	QF	#	0.4	-
	mg/L	N3-4.3	WL, PZ	01/25/2006	0001	14.00 - 14.00	1	U	QF	#	1	-
	mg/L	N3-8.3	WL, PZ	01/25/2006	0001	24.00 - 24.00	1	U	F	#	1	-
	mg/L	N4-12.0	WL, PZ	12/16/2005	0001	37.00 - 37.00	0.2	U	QF	#	0.2	-
	mg/L	N4-3.2	WL, PZ	12/16/2005	0001	8.00 - 8.00	0.2	U	QF	#	0.2	-
	mg/L	N5-14	WL, PZ	12/14/2005	0001	45.00 - 45.00	0.4	U	F	#	0.4	-
	mg/L	N5-7.2	WL, PZ	12/15/2005	0001	23.00 - 23.00	0.2	U	QF	#	0.2	-
	mg/L	N6-6.4	WL, PZ	12/12/2005	0001	12.00 - 12.00	1	U	F	#	1	-
	mg/L	N7-10	WL, PZ	12/15/2005	0001	32.00 - 32.00	20	U	F	#	20	-
	mg/L	N7-11	WL, PZ	12/16/2005	0001	34.00 - 34.00	40	U	QF	#	40	-
	mg/L	N7-7	WL, PZ	12/16/2005	0001	19.00 - 19.00	1	U	QF	#	1	-
	mg/L	W1-7	WL, PZ	12/13/2005	0001	19.00 - 19.00	10	U	QF	#	10	-
Chloride	mg/L	0271	SL, RIV	12/16/2005	0001	0.00 - 0.00	180			#	4	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Chloride	mg/L	0273	SL, RIV	12/15/2005	0001	0.00 - 0.00	180			#	4	-
	mg/L	BL1-D	WL	12/21/2005	0001	140.00 - 140.00	59000		F	#	1000	-
	mg/L	BL1-M	WL	12/20/2005	0001	99.00 - 99.00	49000		F	#	1000	-
	mg/L	BL1-S	WL	12/20/2005	0001	55.00 - 55.00	21000		F	#	400	-
	mg/L	BL2-D	WL	12/21/2005	0001	142.00 - 142.00	62000		F	#	1000	-
	mg/L	BL2-M	WL	12/16/2005	0001	100.00 - 100.00	58000		F	#	2000	-
	mg/L	BL2-M	WL	12/16/2005	0002	100.00 - 100.00	57000		F	#	2000	-
	mg/L	BL2-S	WL	12/15/2005	0001	57.00 - 57.00	47000		F	#	2000	-
	mg/L	BL3-D	WL	12/21/2005	0001	100.00 - 100.00	71000		F	#	1000	-
	mg/L	BL3-M	WL	12/21/2005	0001	47.00 - 47.00	49000		F	#	1000	-
	mg/L	M11-12	WL, PZ	12/13/2005	0001	36.00 - 36.00	8000		F	#	100	-
	mg/L	M11-14.0	WL, PZ	12/12/2005	0001	48.00 - 48.00	52000		F	#	2000	-
	mg/L	M11-14.0	WL, PZ	12/13/2005	0002	48.00 - 48.00	45000		F	#	1000	-
	mg/L	M11-4.8	WL, PZ	12/15/2005	0001	12.00 - 12.00	1200		QF	#	20	-
	mg/L	M11-7.0	WL, PZ	12/14/2005	0001	12.00 - 12.00	710		QF	#	10	-
	mg/L	N2-12.8	WL, PZ	12/16/2005	0001	33.00 - 33.00	220		QF	#	10	-
	mg/L	N2-6.5	WL, PZ	12/15/2005	0001	19.00 - 19.00	120		QF	#	10	-
	mg/L	N3-4.3	WL, PZ	01/25/2006	0001	14.00 - 14.00	770		QF	#	10	-
	mg/L	N3-8.3	WL, PZ	01/25/2006	0001	24.00 - 24.00	480		F	#	10	-
	mg/L	N4-12.0	WL, PZ	12/16/2005	0001	37.00 - 37.00	14		QF	#	0.2	-
	mg/L	N4-3.2	WL, PZ	12/16/2005	0001	8.00 - 8.00	30		QF	#	2	-
	mg/L	N5-14	WL, PZ	12/14/2005	0001	45.00 - 45.00	17		F	#	0.4	-
	mg/L	N5-7.2	WL, PZ	12/15/2005	0001	23.00 - 23.00	22		QF	#	4	-
	mg/L	N6-6.4	WL, PZ	12/12/2005	0001	12.00 - 12.00	790		F	#	10	-
	mg/L	N7-10	WL, PZ	12/15/2005	0001	32.00 - 32.00	40000		F	#	2000	-
	mg/L	N7-11	WL, PZ	12/16/2005	0001	34.00 - 34.00	60000		QF	#	2000	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Chloride	mg/L	N7-7	WL, PZ	12/16/2005	0001	19.00 - 19.00	1700		QF	#	20	-
	mg/L	W1-7	WL, PZ	12/13/2005	0001	19.00 - 19.00	37000		QF	#	1000	-
Dissolved Oxygen	mg/L	0271	SL, RIV	12/16/2005	N001	0.00 - 0.00	13.51			#	-	-
	mg/L	0273	SL, RIV	12/15/2005	N001	0.00 - 0.00	15.33			#	-	-
	mg/L	BL1-D	WL	12/21/2005	N001	140.00 - 140.00	0.74		F	#	-	-
	mg/L	BL1-M	WL	12/20/2005	N001	99.00 - 99.00	1.37		F	#	-	-
	mg/L	BL1-S	WL	12/20/2005	N001	55.00 - 55.00	1.93		F	#	-	-
	mg/L	BL2-D	WL	12/21/2005	N001	142.00 - 142.00	0.88		F	#	-	-
	mg/L	BL2-M	WL	12/16/2005	N001	100.00 - 100.00	0.94		F	#	-	-
	mg/L	BL2-S	WL	12/15/2005	N001	57.00 - 57.00	1.16		F	#	-	-
	mg/L	BL3-D	WL	12/21/2005	N001	100.00 - 100.00	1.12		F	#	-	-
	mg/L	BL3-M	WL	12/21/2005	N001	47.00 - 47.00	0.80		F	#	-	-
	mg/L	M11-12	WL, PZ	12/13/2005	N001	36.00 - 36.00	0.72		F	#	-	-
	mg/L	M11-14.0	WL, PZ	12/12/2005	N001	48.00 - 48.00	0.64		F	#	-	-
	mg/L	M11-7.0	WL, PZ	12/14/2005	N001	12.00 - 12.00	6.58		QF	#	-	-
	mg/L	N2-12.8	WL, PZ	12/16/2005	N001	33.00 - 33.00	4.75		QF	#	-	-
	mg/L	N2-6.5	WL, PZ	12/15/2005	N001	19.00 - 19.00	2.65		QF	#	-	-
	mg/L	N3-4.3	WL, PZ	01/25/2006	N001	14.00 - 14.00	0.90		QF	#	-	-
	mg/L	N3-8.3	WL, PZ	01/25/2006	N001	24.00 - 24.00	0.20		F	#	-	-
	mg/L	N4-12.0	WL, PZ	12/16/2005	N001	37.00 - 37.00	7.22		QF	#	-	-
	mg/L	N4-3.2	WL, PZ	12/16/2005	N001	8.00 - 8.00	5.74		QF	#	-	-
	mg/L	N5-14	WL, PZ	12/14/2005	N001	45.00 - 45.00	1.81		F	#	-	-
	mg/L	N5-7.2	WL, PZ	12/15/2005	N001	23.00 - 23.00	4.41		QF	#	-	-
	mg/L	N6-6.4	WL, PZ	12/12/2005	N001	12.00 - 12.00	1.00		F	#	-	-
	mg/L	N7-10	WL, PZ	12/15/2005	N001	32.00 - 32.00	1.11		F	#	-	-
	mg/L	N7-11	WL, PZ	12/16/2005	N001	34.00 - 34.00	4.88		QF	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Dissolved Oxygen	mg/L	N7-7	WL, PZ	12/16/2005	N001	19.00 - 19.00	9.63		QF	#	-	-
	mg/L	W1-7	WL, PZ	12/13/2005	N001	19.00 - 19.00	1.42		QF	#	-	-
Oxidation Reduction Potent	mV	0271	SL, RIV	12/16/2005	N001	0.00 - 0.00	-44			#	-	-
	mV	0273	SL, RIV	12/15/2005	N001	0.00 - 0.00	-76			#	-	-
	mV	BL1-D	WL	12/21/2005	N001	140.00 - 140.00	-112.3		F	#	-	-
	mV	BL1-M	WL	12/20/2005	N001	99.00 - 99.00	-40.3		F	#	-	-
	mV	BL1-S	WL	12/20/2005	N001	55.00 - 55.00	27.3		F	#	-	-
	mV	BL2-D	WL	12/21/2005	N001	142.00 - 142.00	-25.3		F	#	-	-
	mV	BL2-M	WL	12/16/2005	N001	100.00 - 100.00	-83		F	#	-	-
	mV	BL2-S	WL	12/15/2005	N001	57.00 - 57.00	8.4		F	#	-	-
	mV	BL3-D	WL	12/21/2005	N001	100.00 - 100.00	-270.0		F	#	-	-
	mV	BL3-M	WL	12/21/2005	N001	47.00 - 47.00	-267.6		F	#	-	-
	mV	M11-12	WL, PZ	12/13/2005	N001	36.00 - 36.00	-124.7		F	#	-	-
	mV	M11-14.0	WL, PZ	12/12/2005	N001	48.00 - 48.00	-110.7		F	#	-	-
	mV	M11-7.0	WL, PZ	12/14/2005	N001	12.00 - 12.00	-194.4		QF	#	-	-
	mV	N2-12.8	WL, PZ	12/16/2005	N001	33.00 - 33.00	-141		QF	#	-	-
	mV	N2-6.5	WL, PZ	12/15/2005	N001	19.00 - 19.00	-189.6		QF	#	-	-
	mV	N3-4.3	WL, PZ	01/25/2006	N001	14.00 - 14.00	-103.9		QF	#	-	-
	mV	N3-8.3	WL, PZ	01/25/2006	N001	24.00 - 24.00	-132.8		F	#	-	-
	mV	N4-12.0	WL, PZ	12/16/2005	N001	37.00 - 37.00	-207		QF	#	-	-
	mV	N4-3.2	WL, PZ	12/16/2005	N001	8.00 - 8.00	-120		QF	#	-	-
	mV	N5-14	WL, PZ	12/14/2005	N001	45.00 - 45.00	-127.3		F	#	-	-
	mV	N5-7.2	WL, PZ	12/15/2005	N001	23.00 - 23.00	-88		QF	#	-	-
	mV	N6-6.4	WL, PZ	12/12/2005	N001	12.00 - 12.00	-59.3		F	#	-	-
	mV	N7-10	WL, PZ	12/15/2005	N001	32.00 - 32.00	-158		F	#	-	-
	mV	N7-11	WL, PZ	12/16/2005	N001	34.00 - 34.00	-203		QF	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Oxidation Reduction Potent	mV	N7-7	WL, PZ	12/16/2005	N001	19.00 - 19.00	-115		QF	#	-	-
	mV	W1-7	WL, PZ	12/13/2005	N001	19.00 - 19.00	122.9		QF	#	-	-
pH	s.u.	0271	SL, RIV	12/16/2005	N001	0.00 - 0.00	8.12			#	-	-
	s.u.	0273	SL, RIV	12/15/2005	N001	0.00 - 0.00	8.27			#	-	-
	s.u.	BL1-D	WL	12/21/2005	N001	140.00 - 140.00	7.18		F	#	-	-
	s.u.	BL1-M	WL	12/20/2005	N001	99.00 - 99.00	6.66		F	#	-	-
	s.u.	BL1-S	WL	12/20/2005	N001	55.00 - 55.00	6.58		F	#	-	-
	s.u.	BL2-D	WL	12/21/2005	N001	142.00 - 142.00	6.87		F	#	-	-
	s.u.	BL2-M	WL	12/16/2005	N001	100.00 - 100.00	7.02		F	#	-	-
	s.u.	BL2-S	WL	12/15/2005	N001	57.00 - 57.00	6.50		F	#	-	-
	s.u.	BL3-D	WL	12/21/2005	N001	100.00 - 100.00	6.51		F	#	-	-
	s.u.	BL3-M	WL	12/21/2005	N001	47.00 - 47.00	6.77		F	#	-	-
	s.u.	M11-12	WL, PZ	12/13/2005	N001	36.00 - 36.00	7.07		F	#	-	-
	s.u.	M11-14.0	WL, PZ	12/12/2005	N001	48.00 - 48.00	6.69		F	#	-	-
	s.u.	M11-7.0	WL, PZ	12/14/2005	N001	12.00 - 12.00	8.83		QF	#	-	-
	s.u.	N2-12.8	WL, PZ	12/16/2005	N001	33.00 - 33.00	7.51		QF	#	-	-
	s.u.	N2-6.5	WL, PZ	12/15/2005	N001	19.00 - 19.00	8.76		QF	#	-	-
	s.u.	N3-4.3	WL, PZ	01/25/2006	N001	14.00 - 14.00	8.24		QF	#	-	-
	s.u.	N3-8.3	WL, PZ	01/25/2006	N001	24.00 - 24.00	8.44		F	#	-	-
	s.u.	N4-12.0	WL, PZ	12/16/2005	N001	37.00 - 37.00	8.50		QF	#	-	-
	s.u.	N4-3.2	WL, PZ	12/16/2005	N001	8.00 - 8.00	8.72		QF	#	-	-
	s.u.	N5-14	WL, PZ	12/14/2005	N001	45.00 - 45.00	7.36		F	#	-	-
	s.u.	N5-7.2	WL, PZ	12/15/2005	N001	23.00 - 23.00	8.17		QF	#	-	-
	s.u.	N6-6.4	WL, PZ	12/12/2005	N001	12.00 - 12.00	7.38		F	#	-	-
	s.u.	N7-10	WL, PZ	12/15/2005	N001	32.00 - 32.00	7.09		F	#	-	-
	s.u.	N7-11	WL, PZ	12/16/2005	N001	34.00 - 34.00	7.96		QF	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
pH	s.u.	N7-7	WL, PZ	12/16/2005	N001	19.00 - 19.00	7.76		QF	#	-	-
	s.u.	W1-7	WL, PZ	12/13/2005	N001	19.00 - 19.00	7.06		QF	#	-	-
Specific Conductance	umhos/cm	0271	SL, RIV	12/16/2005	N001	0.00 - 0.00	1472			#	-	-
	umhos/cm	0273	SL, RIV	12/15/2005	N001	0.00 - 0.00	1534			#	-	-
	umhos/cm	BL1-D	WL	12/21/2005	N001	140.00 - 140.00	124500		F	#	-	-
	umhos/cm	BL1-M	WL	12/20/2005	N001	99.00 - 99.00	85280		F	#	-	-
	umhos/cm	BL1-S	WL	12/20/2005	N001	55.00 - 55.00	40630		F	#	-	-
	umhos/cm	BL2-D	WL	12/21/2005	N001	142.00 - 142.00	129100		F	#	-	-
	umhos/cm	BL2-M	WL	12/16/2005	N001	100.00 - 100.00	124000		F	#	-	-
	umhos/cm	BL2-S	WL	12/15/2005	N001	57.00 - 57.00	104100		F	#	-	-
	umhos/cm	BL3-D	WL	12/21/2005	N001	100.00 - 100.00	143800		F	#	-	-
	umhos/cm	BL3-M	WL	12/21/2005	N001	47.00 - 47.00	109100		F	#	-	-
	umhos/cm	M11-12	WL, PZ	12/13/2005	N001	36.00 - 36.00	23860		F	#	-	-
	umhos/cm	M11-14.0	WL, PZ	12/12/2005	N001	48.00 - 48.00	10470		F	#	-	-
	umhos/cm	M11-7.0	WL, PZ	12/14/2005	N001	12.00 - 12.00	3991		QF	#	-	-
	umhos/cm	N2-12.8	WL, PZ	12/16/2005	N001	33.00 - 33.00	2983		QF	#	-	-
	umhos/cm	N2-6.5	WL, PZ	12/15/2005	N001	19.00 - 19.00	3385		QF	#	-	-
	umhos/cm	N3-4.3	WL, PZ	01/25/2006	N001	14.00 - 14.00	3501		QF	#	-	-
	umhos/cm	N3-8.3	WL, PZ	01/25/2006	N001	24.00 - 24.00	2619		F	#	-	-
	umhos/cm	N4-12.0	WL, PZ	12/16/2005	N001	37.00 - 37.00	842		QF	#	-	-
	umhos/cm	N4-3.2	WL, PZ	12/16/2005	N001	8.00 - 8.00	1753		QF	#	-	-
	umhos/cm	N5-14	WL, PZ	12/14/2005	N001	45.00 - 45.00	1281		F	#	-	-
	umhos/cm	N5-7.2	WL, PZ	12/15/2005	N001	23.00 - 23.00	1056		QF	#	-	-
	umhos/cm	N6-6.4	WL, PZ	12/12/2005	N001	12.00 - 12.00	2970		F	#	-	-
	umhos/cm	N7-10	WL, PZ	12/15/2005	N001	32.00 - 32.00	97820		F	#	-	-
	umhos/cm	N7-11	WL, PZ	12/16/2005	N001	34.00 - 34.00	100400		QF	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Specific Conductance	umhos/cm	N7-7	WL, PZ	12/16/2005	N001	19.00 - 19.00	7663		QF	#	-	-
	umhos/cm	W1-7	WL, PZ	12/13/2005	N001	19.00 - 19.00	73120		QF	#	-	-
Sulfate	mg/L	0271	SL, RIV	12/16/2005	0001	0.00 - 0.00	300			#	10	-
	mg/L	0273	SL, RIV	12/15/2005	0001	0.00 - 0.00	300			#	10	-
	mg/L	BL1-D	WL	12/21/2005	0001	140.00 - 140.00	4800		F	#	50	-
	mg/L	BL1-M	WL	12/20/2005	0001	99.00 - 99.00	3000		F	#	50	-
	mg/L	BL1-S	WL	12/20/2005	0001	55.00 - 55.00	1300		F	#	25	-
	mg/L	BL2-D	WL	12/21/2005	0001	142.00 - 142.00	4600		F	#	50	-
	mg/L	BL2-M	WL	12/16/2005	0001	100.00 - 100.00	4600		F	#	100	-
	mg/L	BL2-M	WL	12/16/2005	0002	100.00 - 100.00	4600		F	#	100	-
	mg/L	BL2-S	WL	12/15/2005	0001	57.00 - 57.00	4000		F	#	100	-
	mg/L	BL3-D	WL	12/21/2005	0001	100.00 - 100.00	5700		F	#	50	-
	mg/L	BL3-M	WL	12/21/2005	0001	47.00 - 47.00	5200		F	#	50	-
	mg/L	M11-12	WL, PZ	12/13/2005	0001	36.00 - 36.00	1200		F	#	10	-
	mg/L	M11-14.0	WL, PZ	12/12/2005	0001	48.00 - 48.00	3900		F	#	100	-
	mg/L	M11-14.0	WL, PZ	12/13/2005	0002	48.00 - 48.00	4100		F	#	50	-
	mg/L	M11-4.8	WL, PZ	12/15/2005	0001	12.00 - 12.00	960		QF	#	5	-
	mg/L	M11-7.0	WL, PZ	12/14/2005	0001	12.00 - 12.00	560		QF	#	25	-
	mg/L	N2-12.8	WL, PZ	12/16/2005	0001	33.00 - 33.00	1200		QF	#	25	-
	mg/L	N2-6.5	WL, PZ	12/15/2005	0001	19.00 - 19.00	1100		QF	#	25	-
	mg/L	N3-4.3	WL, PZ	01/25/2006	0001	14.00 - 14.00	130		QF	#	2.5	-
	mg/L	N3-8.3	WL, PZ	01/25/2006	0001	24.00 - 24.00	240		F	#	2.5	-
	mg/L	N4-12.0	WL, PZ	12/16/2005	0001	37.00 - 37.00	62		QF	#	0.5	-
	mg/L	N4-3.2	WL, PZ	12/16/2005	0001	8.00 - 8.00	5.4		QF	#	0.5	-
	mg/L	N5-14	WL, PZ	12/14/2005	0001	45.00 - 45.00	420		F	#	10	-
	mg/L	N5-7.2	WL, PZ	12/15/2005	0001	23.00 - 23.00	410		QF	#	10	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Sulfate	mg/L	N6-6.4	WL, PZ	12/12/2005	0001	12.00 - 12.00	250		F	#	2.5	-
	mg/L	N7-10	WL, PZ	12/15/2005	0001	32.00 - 32.00	3800		F	#	50	-
	mg/L	N7-11	WL, PZ	12/16/2005	0001	34.00 - 34.00	5000		QF	#	100	-
	mg/L	N7-7	WL, PZ	12/16/2005	0001	19.00 - 19.00	590		QF	#	50	-
	mg/L	W1-7	WL, PZ	12/13/2005	0001	19.00 - 19.00	3200		QF	#	25	-
Temperature	C	0271	SL, RIV	12/16/2005	N001	0.00 - 0.00	1.1			#	-	-
	C	0273	SL, RIV	12/15/2005	N001	0.00 - 0.00	0.14			#	-	-
	C	BL1-D	WL	12/21/2005	N001	140.00 - 140.00	11.63		F	#	-	-
	C	BL1-M	WL	12/20/2005	N001	99.00 - 99.00	12.33		F	#	-	-
	C	BL1-S	WL	12/20/2005	N001	55.00 - 55.00	13.12		F	#	-	-
	C	BL2-D	WL	12/21/2005	N001	142.00 - 142.00	14.00		F	#	-	-
	C	BL2-M	WL	12/16/2005	N001	100.00 - 100.00	13.21		F	#	-	-
	C	BL2-S	WL	12/15/2005	N001	57.00 - 57.00	11.20		F	#	-	-
	C	BL3-D	WL	12/21/2005	N001	100.00 - 100.00	11.27		F	#	-	-
	C	BL3-M	WL	12/21/2005	N001	47.00 - 47.00	10.22		F	#	-	-
	C	M11-12	WL, PZ	12/13/2005	N001	36.00 - 36.00	12.88		F	#	-	-
	C	M11-14.0	WL, PZ	12/12/2005	N001	48.00 - 48.00	12.97		F	#	-	-
	C	M11-7.0	WL, PZ	12/14/2005	N001	12.00 - 12.00	10.40		QF	#	-	-
	C	N2-12.8	WL, PZ	12/16/2005	N001	33.00 - 33.00	10.61		QF	#	-	-
	C	N2-6.5	WL, PZ	12/15/2005	N001	19.00 - 19.00	9.36		QF	#	-	-
	C	N3-4.3	WL, PZ	01/25/2006	N001	14.00 - 14.00	9.45		QF	#	-	-
	C	N3-8.3	WL, PZ	01/25/2006	N001	24.00 - 24.00	13.89		F	#	-	-
	C	N4-12.0	WL, PZ	12/16/2005	N001	37.00 - 37.00	8.15		QF	#	-	-
	C	N4-3.2	WL, PZ	12/16/2005	N001	8.00 - 8.00	4.45		QF	#	-	-
	C	N5-14	WL, PZ	12/14/2005	N001	45.00 - 45.00	12.64		F	#	-	-
	C	N5-7.2	WL, PZ	12/15/2005	N001	23.00 - 23.00	10.6		QF	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Temperature	C	N6-6.4	WL, PZ	12/12/2005	N001	12.00 - 12.00	15.18		F	#	-	-
	C	N7-10	WL, PZ	12/15/2005	N001	32.00 - 32.00	10.63		F	#	-	-
	C	N7-11	WL, PZ	12/16/2005	N001	34.00 - 34.00	9.13		QF	#	-	-
	C	N7-7	WL, PZ	12/16/2005	N001	19.00 - 19.00	9.13		QF	#	-	-
	C	W1-7	WL, PZ	12/13/2005	N001	19.00 - 19.00	12.10		QF	#	-	-
Total Dissolved Solids	mg/L	0271	SL, RIV	12/16/2005	0001	0.00 - 0.00	900			#	40	-
	mg/L	0273	SL, RIV	12/15/2005	0001	0.00 - 0.00	900			#	40	-
	mg/L	BL1-D	WL	12/21/2005	0001	140.00 - 140.00	80000		F	#	2000	-
	mg/L	BL1-M	WL	12/20/2005	0001	99.00 - 99.00	77000		F	#	2000	-
	mg/L	BL1-S	WL	12/20/2005	0001	55.00 - 55.00	33000		F	#	1000	-
	mg/L	BL2-D	WL	12/21/2005	0001	142.00 - 142.00	98000		F	#	2000	-
	mg/L	BL2-M	WL	12/16/2005	0001	100.00 - 100.00	94000		F	#	4000	-
	mg/L	BL2-M	WL	12/16/2005	0002	100.00 - 100.00	96000		F	#	2000	-
	mg/L	BL2-S	WL	12/15/2005	0001	57.00 - 57.00	80000		F	#	2000	-
	mg/L	BL3-D	WL	12/21/2005	0001	100.00 - 100.00	120000		F	#	2000	-
	mg/L	BL3-M	WL	12/21/2005	0001	47.00 - 47.00	82000		F	#	2000	-
	mg/L	M11-12	WL, PZ	12/13/2005	0001	36.00 - 36.00	14000		F	#	400	-
	mg/L	M11-14.0	WL, PZ	12/12/2005	0001	48.00 - 48.00	75000		F	#	4000	-
	mg/L	M11-14.0	WL, PZ	12/13/2005	0002	48.00 - 48.00	77000		F	#	2000	-
	mg/L	M11-4.8	WL, PZ	12/15/2005	0001	12.00 - 12.00	3900		QF	#	200	-
	mg/L	M11-7.0	WL, PZ	12/14/2005	0001	12.00 - 12.00	2500		QF	#	80	-
	mg/L	N2-12.8	WL, PZ	12/16/2005	0001	33.00 - 33.00	2200		QF	#	40	-
	mg/L	N2-6.5	WL, PZ	12/15/2005	0001	19.00 - 19.00	1800		QF	#	40	-
	mg/L	N3-4.3	WL, PZ	01/25/2006	0001	14.00 - 14.00	1900		QF	#	80	-
	mg/L	N3-8.3	WL, PZ	01/25/2006	0001	24.00 - 24.00	1600		F	#	80	-
	mg/L	N4-12.0	WL, PZ	12/16/2005	0001	37.00 - 37.00	560		QF	#	20	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Total Dissolved Solids	mg/L	N4-3.2	WL, PZ	12/16/2005	0001	8.00 - 8.00	310		QF	#	40	-
	mg/L	N5-14	WL, PZ	12/14/2005	0001	45.00 - 45.00	960		F	#	20	-
	mg/L	N5-4.4NEW	WL, PZ	12/15/2005	0001	12.00 - 12.00	780		QF	#	80	-
	mg/L	N5-7.2	WL, PZ	12/15/2005	0001	23.00 - 23.00	890		QF	#	20	-
	mg/L	N6-6.4	WL, PZ	12/12/2005	0001	12.00 - 12.00	1700		F	#	80	-
	mg/L	N7-10	WL, PZ	12/15/2005	0001	32.00 - 32.00	67000		F	#	2000	-
	mg/L	N7-11	WL, PZ	12/16/2005	0001	34.00 - 34.00	99000		QF	#	2000	-
	mg/L	N7-7	WL, PZ	12/16/2005	0001	19.00 - 19.00	3400		QF	#	200	-
	mg/L	W1-7	WL, PZ	12/13/2005	0001	19.00 - 19.00	56000		QF	#	2000	-
Turbidity	NTU	0271	SL, RIV	12/16/2005	N001	0.00 - 0.00	46			#	-	-
	NTU	0273	SL, RIV	12/15/2005	N001	0.00 - 0.00	126			#	-	-
	NTU	BL1-D	WL	12/21/2005	N001	140.00 - 140.00	9.51		F	#	-	-
	NTU	BL1-M	WL	12/20/2005	N001	99.00 - 99.00	3.94		F	#	-	-
	NTU	BL1-S	WL	12/20/2005	N001	55.00 - 55.00	8.61		F	#	-	-
	NTU	BL2-D	WL	12/21/2005	N001	142.00 - 142.00	7.14		F	#	-	-
	NTU	BL2-M	WL	12/16/2005	N001	100.00 - 100.00	15.8		F	#	-	-
	NTU	BL2-S	WL	12/15/2005	N001	57.00 - 57.00	38.8		F	#	-	-
	NTU	BL3-D	WL	12/21/2005	N001	100.00 - 100.00	5.68		F	#	-	-
	NTU	BL3-M	WL	12/21/2005	N001	47.00 - 47.00	9.53		F	#	-	-
	NTU	M11-12	WL, PZ	12/13/2005	N001	36.00 - 36.00	4.42		F	#	-	-
	NTU	M11-14.0	WL, PZ	12/12/2005	N001	48.00 - 48.00	9.45		F	#	-	-
	NTU	M11-7.0	WL, PZ	12/14/2005	N001	12.00 - 12.00	61.6		QF	#	-	-
	NTU	N2-12.8	WL, PZ	12/16/2005	N001	33.00 - 33.00	48.3		QF	#	-	-
	NTU	N3-8.3	WL, PZ	01/25/2006	N001	24.00 - 24.00	3.64		F	#	-	-
	NTU	N4-12.0	WL, PZ	12/16/2005	N001	37.00 - 37.00	147		QF	#	-	-
	NTU	N4-3.2	WL, PZ	12/16/2005	N001	8.00 - 8.00	103		QF	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Turbidity	NTU	N5-14	WL, PZ	12/14/2005	N001	45.00 - 45.00	3.32		F	#	-	-
	NTU	N6-6.4	WL, PZ	12/12/2005	N001	12.00 - 12.00	590		F	#	-	-
	NTU	N7-10	WL, PZ	12/15/2005	N001	32.00 - 32.00	653		F	#	-	-
	NTU	N7-11	WL, PZ	12/16/2005	N001	34.00 - 34.00	60.9		QF	#	-	-
	NTU	N7-7	WL, PZ	12/16/2005	N001	19.00 - 19.00	382		QF	#	-	-
	NTU	W1-7	WL, PZ	12/13/2005	N001	19.00 - 19.00	187		QF	#	-	-
Uranium	mg/L	0271	SL, RIV	12/16/2005	0001	0.00 - 0.00	0.0061			#	4.8E-06	-
	mg/L	0273	SL, RIV	12/15/2005	0001	0.00 - 0.00	0.0062			#	4.8E-06	-
	mg/L	BL1-D	WL	12/21/2005	0001	140.00 - 140.00	0.0011		F	#	4.8E-06	-
	mg/L	BL1-M	WL	12/20/2005	0001	99.00 - 99.00	0.002		F	#	4.8E-06	-
	mg/L	BL1-S	WL	12/20/2005	0001	55.00 - 55.00	0.007		F	#	4.8E-06	-
	mg/L	BL2-D	WL	12/21/2005	0001	142.00 - 142.00	0.0028		F	#	4.8E-06	-
	mg/L	BL2-M	WL	12/16/2005	0001	100.00 - 100.00	0.003		F	#	4.8E-06	-
	mg/L	BL2-M	WL	12/16/2005	0002	100.00 - 100.00	0.0025		F	#	2.4E-05	-
	mg/L	BL2-S	WL	12/15/2005	0001	57.00 - 57.00	0.0027		F	#	4.8E-06	-
	mg/L	BL3-D	WL	12/21/2005	0001	100.00 - 100.00	0.00005	B	UF	#	4.8E-06	-
	mg/L	BL3-M	WL	12/21/2005	0001	47.00 - 47.00	0.00016		F	#	4.8E-06	-
	mg/L	M11-12	WL, PZ	12/13/2005	0001	36.00 - 36.00	0.0012		F	#	4.8E-06	-
	mg/L	M11-14.0	WL, PZ	12/12/2005	0001	48.00 - 48.00	0.00088		F	#	4.8E-06	-
	mg/L	M11-14.0	WL, PZ	12/13/2005	0002	48.00 - 48.00	0.00083		F	#	4.8E-06	-
	mg/L	M11-4.8	WL, PZ	12/15/2005	0001	12.00 - 12.00	0.003		QF	#	4.8E-06	-
	mg/L	M11-7.0	WL, PZ	12/14/2005	0001	12.00 - 12.00	0.0028		QF	#	4.8E-06	-
	mg/L	N2-12.8	WL, PZ	12/16/2005	0001	33.00 - 33.00	0.0002		QF	#	4.8E-06	-
	mg/L	N2-4.3	WL, PZ	12/15/2005	0001	12.00 - 12.00	0.00015		QF	#	4.8E-06	-
	mg/L	N2-6.5	WL, PZ	12/15/2005	0001	19.00 - 19.00	0.00007	B	UQF	#	4.8E-06	-
	mg/L	N3-4.3	WL, PZ	01/25/2006	0001	14.00 - 14.00	0.018		QF	#	2.4E-06	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Uranium	mg/L	N3-8.3	WL, PZ	01/25/2006	0001	24.00 - 24.00	0.045		F	#	2.4E-06	-
	mg/L	N4-12.0	WL, PZ	12/16/2005	0001	37.00 - 37.00	0.0019		QF	#	4.8E-06	-
	mg/L	N4-3.2	WL, PZ	12/16/2005	0001	8.00 - 8.00	0.00006	B	UQF	#	4.8E-06	-
	mg/L	N5-14	WL, PZ	12/14/2005	0001	45.00 - 45.00	0.0026		F	#	4.8E-06	-
	mg/L	N5-4.4NEW	WL, PZ	12/15/2005	0001	12.00 - 12.00	0.00019		QF	#	4.8E-06	-
	mg/L	N5-7.2	WL, PZ	12/15/2005	0001	23.00 - 23.00	0.00034		QF	#	4.8E-06	-
	mg/L	N6-6.4	WL, PZ	12/12/2005	0001	12.00 - 12.00	0.0066		F	#	4.8E-06	-
	mg/L	N7-10	WL, PZ	12/15/2005	0001	32.00 - 32.00	0.0024		F	#	4.8E-06	-
	mg/L	N7-11	WL, PZ	12/16/2005	0001	34.00 - 34.00	0.00004	B	UQF	#	4.8E-06	-
	mg/L	N7-7	WL, PZ	12/16/2005	0001	19.00 - 19.00	0.00023		QF	#	4.8E-06	-
	mg/L	W1-7	WL, PZ	12/13/2005	0001	19.00 - 19.00	0.017		QF	#	2.4E-05	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:57 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY

RECORDS: SELECTED FROM USEE200 WHERE site_code='MOA01' AND location_code in('BL1-S','BL1-M','BL1-D','BL2-S','BL2-M','BL2-D','BL3-D','BL3-M','M11-4.8','M11-7.0','M11-12','M11-14.0','N2-1.5','N2-4.3','N2-6.5','N2-12.8','N3-4.3','N3-8.3','N4-3.2','N4-12.0','N5-4.4NEW','N5-7.2','N5-14','N6-4.5','N6-6.4','N7-7','N7-10','N7-11','N8-3','N8-6','N8-14','W1-4.3','W1-7','W1-10','0271','0273') AND quality_assurance = TRUE AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%') AND DATE_SAMPLED between #12/10/2005# and #1/28/2006#

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LOCATION TYPES: SL SURFACE LOCATION WL WELL

LOCATION SUBTYPES: PZ Piezometer RIV River

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
+	Correlation coefficient for MSA < 0.995.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic & Radiochemistry: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated
M	GFAA duplicate injection precision not met.
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compund (TIC).
P	> 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
S	Result determined by method of standard addition (MSA).
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Y	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Z	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.

DATA QUALIFIERS:

F	Low flow sampling method used.	G	Possible grout contamination, pH > 9.	J	Estimated value.
L	Less than 3 bore volumes purged prior to sampling.	Q	Qualitative result due to sampling technique	R	Unusable result.
U	Parameter analyzed for but was not detected.	X	Location is undefined.		

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

Water Level Data

STATIC WATER LEVELS (USEE700) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:55 am

LOCATION CODE	FLOW CODE	TOP OF CASING ELEVATION (FT)	MEASUREMENT		DEPTH FROM TOP OF CASING (FT)	WATER ELEVATION (FT)	WATER LEVEL FLAG
			DATE	TIME			
BL1-D		-	12/21/2005	08:55	15.16	-15.16	
BL1-M		-	12/20/2005	16:10	13.64	-13.64	
BL1-S		-	12/20/2005	15:27	11.71	-11.71	
BL2-D		-	12/21/2005	12:12	16.31	-16.31	
BL2-M		-	12/16/2005	09:48	16.08	-16.08	
BL2-S		-	12/15/2005	10:30	15.22	-15.22	
BL3-D		-	12/21/2005	10:25	14.68	-14.68	
BL3-M		-	12/21/2005	11:05	12.81	-12.81	
M11-12	C	3964.16	12/13/2005	09:53	10.86	3953.30	
M11-14.0	C	3964.57	12/13/2005	09:22	10.05	3954.52	
M11-4.8	C	3964.61	12/13/2005	09:05	11.46	3953.15	
M11-7.0	C	3964.56	12/13/2005	09:10	11.41	3953.15	
N2-1.5	C	3962.54	12/14/2005	13:30	4.97	3957.57	
N2-12.8	C	3963.11	12/14/2005	13:55	6.24	3956.87	
N2-4.3	C	3962.87	12/14/2005	13:38	5.32	3957.55	
N2-6.5	C	3963.01	12/14/2005	13:45	5.98	3957.03	
N3-4.3	C	3964.71	01/25/2006	10:05	4.03	3960.68	
N3-8.3	C	3965.03	01/25/2006	10:10	4.37	3960.66	
N4-12.0	C	3963.27	12/15/2005	16:28	3.19	3960.08	
N4-3.2	C	3962.35	12/15/2005	16:23	2.84	3959.51	
N5-14	C	3965.59	12/14/2005	15:50	3.41	3962.18	
N5-4.4NEW	C	3965.43	12/14/2005	16:10	7.04	3958.39	
N5-7.2	C	3965.82	12/14/2005	15:30	3.28	3962.54	
N6-6.4	C	3962.69	12/12/2005	14:40	6.54	3956.15	
N7-10	C	3964.41	12/15/2005	14:50	14.64	3949.77	
N7-11	C	3963.84	12/15/2005	14:23	14.10	3949.74	
N7-7	C	3964.37	12/15/2005	15:11	14.55	3949.82	
N8-14	C	3964.91	12/13/2005	14:20		-	D
N8-3	C	3965.03	12/13/2005	14:00		-	D
N8-6	C	3964.79	12/13/2005	14:10		-	D

STATIC WATER LEVELS (USEE700) FOR SITE MOA01, Moab Site
REPORT DATE: 2/24/2006 9:55 am

LOCATION CODE	FLOW CODE	TOP OF CASING ELEVATION (FT)	MEASUREMENT		DEPTH FROM TOP OF CASING (FT)	WATER ELEVATION (FT)	WATER LEVEL FLAG
			DATE	TIME			
W1-10	C	3965.56	12/12/2005	15:35	12.18	3953.38	
		3965.56	01/25/2006		20.21	3945.35	
W1-4.3	C	3965.39	12/12/2005	16:10	11.85	3953.54	
W1-7	C	3965.43	12/12/2005	15:50	10.91	3954.52	

RECORDS: SELECTED FROM USEE700 WHERE site_code='MOA01' AND location_code in('BL1-S','BL1-M','BL1-D','BL2-S','BL2-M','BL2-D','BL3-D','BL3-M','M11-4.8','M11-7.0','M11-12','M11-14.0','N2-1.5','N2-4.3','N2-6.5','N2-12.8','N3-4.3','N3-8.3','N4-3.2','N4-12.0','N5-4.4NEW','N5-7.2','N5-14','N6-4.5','N6-6.4','N7-7','N7-10','N7-11','N8-3','N8-6','N8-14','W1-4.3','W1-7','W1-10') AND LOG_DATE between #12/10/2005# and #1/28/2006#

FLOW CODES: C CROSS GRADIENT

WATER LEVEL FLAGS:
D Dry

Blanks Report

BLANKS REPORT
LAB CODE: PAR, PARAGON (Fort Collins, CO)
LAB REQUISITION(S): 05120276
REPORT DATE: 02/24/06 08:03:29: AM

PARAMETER	SITE CODE	LOCATION ID	SAMPLE DATE	SAMPLE ID	UNITS	RESULT	QUALIFIERS LAB	QUALIFIERS DATA	DETECTION LIMIT	UNCERTAINTY	SAMPLE TYPE
Ammonia Total as N	MOA01	0999	12/16/2005	0001	mg/L	0.1	U		0.1		E
Bromide	MOA01	0999	12/16/2005	0001	mg/L	0.2	U		0.2		E
Chloride	MOA01	0999	12/16/2005	0001	mg/L	0.52			0.2		E
Sulfate	MOA01	0999	12/16/2005	0001	mg/L	0.5	U		0.5		E
Total Dissolved Solids	MOA01	0999	12/16/2005	0001	mg/L	20	U		20		E
Uranium	MOA01	0999	12/16/2005	0001	mg/L	0.000046	B	U	0.0000048		E

BLANKS REPORT
LAB CODE: PAR, PARAGON (Fort Collins, CO)
LAB REQUISITION(S): 05120276
REPORT DATE: 02/24/06 08:03:29: AM

PARAMETER	SITE CODE	LOCATION ID	SAMPLE DATE	ID	UNITS	RESULT	QUALIFIERS LAB	QUALIFIERS DATA	DETECTION LIMIT	UNCERTAINTY	SAMPLE TYPE

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
+	Correlation coefficient for MSA < 0.995.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic & Radiochemistry: Analyte also found in method blank.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
Z	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
C	Pesticide result confirmed by GC-MS.
M	GFAA duplicate injection precision not met.
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compund (TIC).
S	Result determined by method of standard addition (MSA).
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
D	Analyte determined in diluted sample.
P	> 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
X	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Y	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
>	Result above upper detection limit.
J	Estimated

DATA QUALIFIERS:

J	Estimated value.	F	Low flow sampling method used.	G	Possible grout contamination, pH > 9.
L	Less than 3 bore volumes purged prior to sampling.	R	Unusable result.	X	Location is undefined.
U	Parameter analyzed for but was not detected.	Q	Qualitative result due to sampling technique		

SAMPLE TYPES:

E	EQUIPMENT BLANK

Attachment 2

Trip Report

Stoller

established 1959

DATE: January 30, 2006

TO: John Ford

FROM: K. G. Pill

SUBJECT: Trip Report

Site: Moab UMTRA Project – Matheson Wetlands Preserve Ground Water and Surface Water Sampling Event – December 2005

Date of Sampling Event: December 12–16, December 20–21, 2005, and January 25–26, 2006.

Team Members: N. Malczyk, S. Back, K. Pill, and E. Bettez

Sampling Event Background: This sampling event represents the first time any Matheson locations have been sampled by Stoller since March 2003. This event also represents the first Stoller sampling of the BL–1, –2, and –3 well clusters, which were installed by others in late July and early August 2003.

Number of Locations Sampled: Twenty-seven monitor wells/piezometers, two surface water locations, two duplicates, and one equipment blank were sampled. Four location samples (BL1-S, BL3–M, BL3–D, and 2288) were initially submitted to the laboratory using the incorrect sample-intake depths. The laboratory was notified not to analyze these samples on December 15, 2005. Locations BL1–S, BL3–M, and BL3–D were resampled using the correct intake depths. Location 2288 was a QA/QC sample, and was not resampled.

Locations N3–4.3 and N3–8.3 were not sampled during the initial site visit. This oversight was corrected by sampling these two locations in January 2006. As a result, while a total 36 samples were submitted, the laboratory was directed to analyze only 32 of them.

Locations Not Sampled/Reason: Eight of the planned locations were not sampled due to various reasons. Locations N8–3, –6, and –14 were all dry. Location W1–10 purged dry and never recharged. Locations W1–4.3 and N2–1.5 contained only 0.3 ft and 0.1 ft of water, respectively, which is an insufficient volume to purge and sample. Location N6–4.5 contained kinked tubing (which is permanently installed inside the piezometer), and did not allow for sample collection. Surface location 0272 was not sampled due to time restraints and access issues.

Sample Analysis: Submitted samples were analyzed for ammonia (total as N), bromide, chloride, sulfate, total dissolved solids, and uranium.

Field Variance: Only a 125-ml sample was collected for uranium analysis, as opposed to the standard 500-ml sample volume. No other metals are being sampled, and this volume is sufficient for the uranium analysis. Limited sample volume was available for analysis for samples collected from locations M11–4.8, M11–7, N2–4.3, N2–6.5, N3–4.3, N4–3.2, N5–4.4, N5–7.2, N7–7, and N7–11. These samples were split and preserved as directed by the laboratory for proper analysis.

Quality Control Sample Cross Reference: Following are the false identifications assigned to the quality control samples:

False Id	True Id	Sample Type	Associated Matrix	Ticket Number
2287	M11–14	Duplicate	Ground water	NFA 187
2289	BL2–M	Duplicate	Ground water	NFA 207
2290	NA	Equipment Blank – GW Equip	DI Water	NFA 208

RIN Number Assigned: All samples with the exception of locations N3–4.3 and N3–8.3 were assigned to RIN 05120276. Samples N3–4.3 and N3–8.3 were assigned to RIN 06010301.

Sample Shipment: Three coolers were shipped overnight via FedEx from Moab, Utah, to Paragon Analytics, Inc.: the first on December 14, 2005 (Airbill No. 8527 5847 8274); the second on December 16, 2005 (Airbill No. 8527 5847 8285); and the third on December 21, 2005 (Airbill No. 8527 5847 8296). Samples N3–4.3 and N3–8.3 were shipped overnight via FedEx from Moab, Utah, on January 26, 2006 (Airbill No. 8527 5847 7473).

Location Specific Information – Wells and Piezometers: All piezometers were sampled with a peristaltic pump using micro-purge sampling techniques with dedicated tubing. All wells (BL series) were also sampled with a peristaltic pump using micro-purge sampling techniques with downhole tubing deconned between locations. Water level, total depth, and sample depth data are provided in the table below:

Well/Pz No.	Date	Time	Depth to Water (ft btoc)	Total Depth (ft btoc)	Sample Depth (ft bgs)	Comments
BL1–S	12/20/05	1527	11.71	57.45	55	
BL1–M	12/20/05	1610	13.64	101.1	99	
BL1–D	12/21/05	0855	15.16	142	140	
BL2–S	12/15/05	1030	15.22	58.60	57	
BL2–M	12/16/05	0948	16.08	104	100	
BL2–D	12/21/05	1212	16.31	145.5	142	
BL3–M	12/21/05	1105	12.81	49.40	47	
BL3–D	12/21/05	1025	14.68	103	100	
M11–4.8	12/13/05	0905	11.46	14.34	12	Limited volume
M11–7	12/13/05	0910	11.41	14.39	12	Limited volume
M11–12	12/13/05	0953	10.86	37.4	36	
M11–14	12/13/05	0922	10.05	49.5	48	
N2–1.5	12/14/05	1330	4.97	5.02	na	Less than 0.1 ft of water. Not sampled.
N2–4.3	12/14/05	1338	5.32	14.00	12	Limited volume
N2–6.5	12/14/05	1345	5.98	21.30	19	Limited volume
N2–12.8	12/14/05	1355	6.24	35.19	33	

Well/Pz No.	Date	Time	Depth to Water (ft btoc)	Total Depth (ft btoc)	Sample Depth (ft bgs)	Comments
N3–4.3	1/25/06	1005	4.03	14.03	14	Limited volume
N3–8.3	1/25/06	1010	4.37	24.68	24	
N4–3.2	12/15/05	1623	2.84	10.42	8	Limited volume
N4–12	12/15/05	1628	3.19	39.24	37	
N5–4.4	12/14/05	1610	7.04	14.18	12	Limited volume
N5–7.2	12/14/05	1530	3.28	24.95	23	Limited volume
N5–14	12/14/05	1550	3.41	49.54	45	
N6–4.5	12/12/05	1520	na	na	na	Kink in tubing, not able to access. Not sampled.
N6–6.4	12/12/05	1440	6.54	14.15	12	
N7–7	12/15/05	1511	14.55	21.34	19	Limited volume
N7–10	12/15/05	1450	14.64	33.06	32	
N7–11	12/15/05	1423	14.10	35.49	34	Limited volume
N8–3	12/13/05	1400	dry	9.62	na	Location dry. Not sampled.
N8–6	12/13/05	1410	dry	9.20	na	Location dry. Not sampled.
N8–14	12/13/05	1420	dry	14.74	na	Location dry. Not sampled.
W1–4.3	12/12/05	1610	11.85	12.17	na	Only 0.3 ft of water. Not sampled.
W1–7	12/12/05	1550	10.91	21.14	19	
W1–10	12/12/05	1535	12.18	21.30	na	Purged dry after 0.5 L, never recharged. Not sampled.

Notes: ft btoc = feet below top of casing; ft bgs = feet below ground surface.

Location Specific Information – Surface Water Locations: Each surface water sample was collected using a peristaltic pump and hose reel. Ice flows were present in the river when both samples were collected. The sample from surface location 0273 was collected approximately 1 ft off the bank, from a depth of 0.3 ft below the surface. The sample from surface location 0271 was collected approximately 3 ft off the bank, from a depth of 0.4 ft below the surface. It was necessary to break through the ice accumulated along the riverbank to collect this sample.

Well Inspection Summary: Inspections were conducted at all sampled locations; all locations were in good condition with the exception of N6–4.5, which had a kink in the tubing 3.3 ft below the top of the casing.

Equipment: No problems to report.

Regulatory Issues: None.

Site Issues: All BL series wells require development prior to the next sampling event. Specifically, the bottom of each well needs to be cleaned out in order to avoid turbidity issues during the next event. Also, these wells need to be surveyed and included in the SEEPro database.

According to the USGS Cisco Gaging Station (Station No. 09180500), the mean daily Colorado River flows during the sampling event were as follows:

Date	Stream-flow (ft^3/s) (Daily Mean)
12/11/2005	2,600
12/12/2005	2,660
12/13/2005	2,700
12/14/2005	2,750
12/15/2005	2,800
12/16/2005	2,900
12/17/2005	3,000
12/18/2005	3,100
12/19/2005	3,200
12/20/2005	3,300
12/21/2005	3,400
12/22/2005	3,500
01/24/2006	2,680
01/25/2006	2,670
01/26/2006	2,830

Corrective Action Required/Taken: None.

(KGP/lcg)

cc: C. I. Bahrke, Stoller (e)
L. E. Cummins, Stoller (e)
S. E. Donivan, Stoller (e)
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J. E. Price, Stoller (e)

BL2 Wells

M11 Cluster

N2 Cluster

N4 Cluster

N5 Cluster

N6 Cluster

N7 Cluster

Surface Location 0273

Surface Location 0271